

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 August 2004 (26.08.2004)

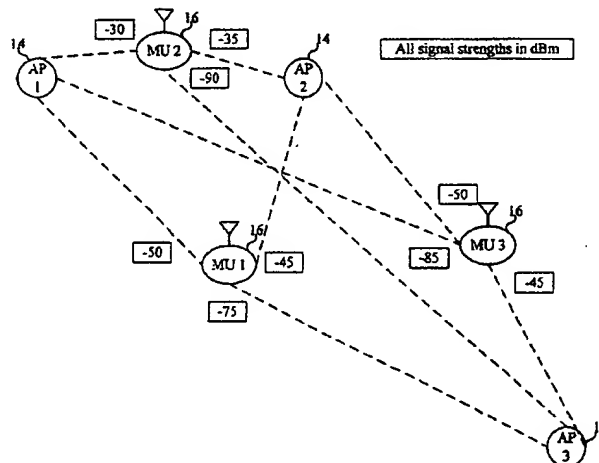
PCT

(10) International Publication Number
WO 2004/073243 A3

- (51) International Patent Classification?: H04Q 7/20, H04M 1/00, H04B 1/38 (74) Agents: SHENTOV, Ognjan, V. et al.; Jones Day, 222 East 41st Street, New York, NY 10017-6702 (US).
- (21) International Application Number: PCT/US2004/004387 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 13 February 2004 (13.02.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/447,166 13 February 2003 (13.02.2003) US (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (for all designated States except US): WAVELINK CORPORATION [US/US]; 11332 NE 122nd Way, Suite 300, Kirkland, WA 98034 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): WHELAN, Robert, J. [US/US]; 545 Kirkland Avenue, Kirkland, WA 98033 (US). ELSTON, Stephen, F. [US/US]; 7031 2nd Avenue, Seattle, WA 98117 (US).
- Published:
— with international search report

[Continued on next page]

(54) Title: CHANNEL, CODING AND POWER MANAGEMENT FOR WIRELESS LOCAL AREA NETWORKS



Mobile Unit Signal Strength Measurements

(57) Abstract: A system and method are disclosed for the management of WLANs in cases where unmanaged access points are present as well as with the addition or removal of access points (14). The disclosed system and method use signal data and network traffic statistics collected by mobile units (16) to determine optimal configuration settings for the access points (14). The access point settings so managed can include the operating channel or center frequency, orthogonal signal coding used (optionally including the data rate), if any, and the transmission power. The solutions computed can account for the inherent trade-offs between wireless network coverage area and mutual interference that may arise when two or more access points use the same or overlapping frequency bands or channels and the same or similar signal coding.

WO 2004/073243 A3



— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
21 October 2004

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US20/04004387

A. CLASSIFICATION OF SUBJECT MATTERIPC(7) : H04Q 7/20; H04M 1/00; H04B 1/38
US CL : 455/450, 452.2, 552.1, 571, 161.3, 500

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 455/450, 452.2, 552.1, 571, 161.3, 500

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	US 2004/0082327 A1 (KIM et al) 29 April 2004 (29.04.2004), column 1 lines 0013-0015.	1-25
Y, P	US 2002/0085719 A1 (CROSBIE) 04 July 2002 (04.07.2002), column 1 lines 0006-0022.	1-25
A	US 2004/0137915 A1 (DIENER et al) 15 July 2004 (15.07.2004), column 2 lines 0031-0033.	1-25

☐ Further documents are listed in the continuation of Box C.☐ See parent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

31 July 2004 (31.07.2004)

Date of mailing of the international search report

18 AUG 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Sheila B. Smith

Telephone No. (703) 305-0104